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ABSTRACT

In an effort to measure the impact of Outward Bound (OB) education on teacher candidates, an 18-day stress experience was arranged for 12 Appalachian State University students and then compared with the effects of the normal 11-week student teacher experiences of two other groups. The OB group underwent a series of individual and group wilderness problems involving cross-country back packing, rock climbing, white water rafting, and a three-day wilderness solo without food. The OB students were also given a dime and asked to "make do" in Atlanta, Georgia for several days. Learning by doing and group cooperation were emphasized. During the remaining 8 weeks of the semester, these students taught in a classroom. Pre- and post-assessments by OB students of their overall professional education and their personal teaching readiness and performance were positive, as were their summarization statements. Evaluations by public school classes and college supervisors did not indicate significant differences among the groups, but pre- and post-inventories relative to the total contribution of professional education to teaching readiness showed marked changes in favor of OB, while the other groups' responses did not vary. Specifically, the OB group gained in: (1) teacher self-confidence; (2) student involvement (involving students); and (3) humanism (humanistic receptivity to others). (JC)

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OUTWARD BOUND in the PROFESSIONAL EDUCATION of TEACHERS

A STUDY of an EXPERIMENTAL COMPONENT in FIELD EXPERIENCES

by

KEENER SMATHERS

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OUTWARD BOUND IN THE PROFESSIONAL EDUCATION OF TEACHERS

A Study of an Experimental Component in Field Experiences

by

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1975

With a Review and Bibliography of Related Projects by

Robert Godfrey

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the National Conference on Outdoor Pursuits
in Higher Education

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ABSTRACT

In a pilot study to determine the impact of Outward Bound education on a group of twelve University candidates for teacher certification, an eighteen day Outward Bound experience was arranged for the students by Appalachian State University, Boone, North Carolina and the North Carolina Outward Bound School. The project was funded by a DeWitt Wallace/Reader's Digest Grant. This was the first attempt to isolate the effect of Outward Bound experience on teacher candidates during their active experiential training in student teaching.

Three groups were compared to measure the effects of the eleven week field experience. The Outward Bound group attended an Outward Bound session which required essentially the first three weeks of the University quarter. The Outward Bound group underwent a stressful series of individual and group wilderness problems involving cross country back packing, rock climbing, white water rafting and a three day wilderness solo without food. A ghetto component of the program charged each student with "making do" in Atlanta, Georgia for several days with only a dime. Learning by doing with direct and critical feedback was emphasized throughout. Group cooperation was essential. The remaining eight weeks for this group was spent in classroom experience in student teaching. A second group volunteered for the Outward Bound experience but was not selected and consequently spent the eleven weeks in student teaching. A third group expressed no interest in Outward Bound and went directly to classroom experience as the second group had done.

Four evaluation procedures were attempted. Pre and post assessment by the students of their overall professional education and self-evaluations of personal teaching readiness and performance produced noteworthy conclusions in favor of Outward Bound training. Summarization statements by students taking Outward Bound also were positive about the value of the experience. However, evaluations of the student teachers by public school classes and by college supervisors produced no significant differences among the three groups. It should be pointed out that serious consideration could not have been given the class and supervisor's evaluation anyway since validity was destined to be impugned due to a number of unavoidable variables imposed upon the study by the administrative systems of the several public schools and the University.

Pre and post assessment with the identical inventory about the total contribution of professional education to teaching readiness showed marked changes over the eleven weeks in a favorable way for the Outward Bound group.

With regard to the inventory overall, the other two groups did not vary to any appreciable extent in their responses at the beginning and end. The Outward Bound group showed positive gains when compared with the other two groups in their feelings about personal teaching readiness and the University's part in readiness attainment. Outward Bound students gave responses in certain areas that were significantly higher by statistical standards than the group that volunteered for Outward Bound but was not selected.

In factor analysis of teacher characteristics generally deemed related to teaching success, a group of questions that clustered in teacher self-confidence was studied. In self-confidence, the Outward Bound group gained from beginning to end to a degree which was highly significant by statistical standards. When compared to the other groups, the Outward Bound group gained significantly. On the group which chose the classroom, the Outward Bound group gained to a highly significant degree.

Another cluster of questions dealt with student involvement - that is, the teacher characteristic of involving students directly and actively in the learning process. Again the Outward Bound group gained markedly from beginning to end almost to the point of statistical significance overall, and when compared to the group which volunteered but was denied Outward Bound, a statistically significant gain did occur.

A third cluster enveloped a group of questions in the area of interpersonal relations - that is, humanistic receptivity to others as shown by the teacher. Once again, the Outward Bound group gains beginning to end were statistically significant. When compared to the other two groups, the Outward Bound group gained significantly and gained to a highly significant degree on the group which volunteered for but was denied the Outward Bound experience.

If student evaluations of college training programs for teachers are to be considered, the pilot study here makes a strong case for further study of Outward Bound wilderness and ghetto challenges as a component of the student teaching experience. By the instrument of measurement used in this study, there is evidence that the mutual supportiveness among personalities in the challenging Outward Bound experience, the reinforcement of elementary principles of learning and the experience of overcoming the seemingly insurmountable all somehow are transferable to a classroom of students for the beginning teacher.

Since the number of participants was small in this study, and since evaluations of student teachers by their classes and by their college supervisors were inconclusive because of unmanageable variables exceeding the powers of the researcher, a larger, more controllable study is, in the opinion of the Office of University Research, definitely warranted.

As it is, one can say that twelve students who underwent three weeks of Outward Bound during their eleven week student teaching quarter registered on a measurement instrument dealing with professional education's contribution to some of the characteristics of good teaching a highly positive impression of improvement in their overall training after eight weeks of classroom experience. Twenty-eight students who did not experience Outward Bound but underwent eleven weeks of practical teaching experience remained relatively unchanged on the same instrument in their impression of their professional education.

WITH GRATITUDE

The author of this research is greatly indebted to the DeWitt Wallace/Reader's Digest Fund for making available the several scholarships to Outward Bound for a number of student teachers. Without these funds this study could not have been done.

To Dan Meyer, Director of the North Carolina Outward Bound School, I am grateful for resourcefulness which was invaluable in instigating the study, for direct input into the research design and for his administration of the Outward Bound experience.

To William Hubbard of the Office of University Research, I am also grateful for many hours of work. Dr. Hubbard's guidance over the long period of data analysis and writing of the report helped keep the study on proper course.

To the many faculty supervisors of student teachers I am grateful. Their delicate public relations efforts in making exceptions in the public school programs for several student teachers were not in their own interests and required a spirit of unusual cooperation. For their willingness to help coordinate the inconvenient but necessary administrative and evaluating procedures in the schools, I am also indebted.

To Dr. Robert Godfrey, School of Education, University of Colorado, gratitude is extended for his permission to use the review of related research appended to this study.

Keener Smathers

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DESIGN and PREMISES

The proximity of two institutions, Appalachian State University and the North Carolina Outward Bound School and the emerging national interest in Outward Bound Teachers' Practica courses gave rise to a study to determine the impact of Outward Bound education upon field experiences of college candidates for teacher certification. The candidates were seniors who had completed most of their professional education.

The idea was to study the expansion of experiential and practical education of teacher candidates beyond the public school classrooms into the real world on the grounds that students who are the recipients in the learning process respond from a personality make-up developed largely outside the confines of classroom organization.

Although Outward Bound wilderness and ghetto experiences offer the real world in an archetypal way - a world stripped of its common inhibitions, social subtleties and mechanical conveniences - the fundamental principles of learning are acknowledged to be starkly apparent and clearer to everyone in such an environment. On this premise, a study was designed to single out several fundamental characteristics believed possessed by a good teacher and to measure the impact of Outward Bound experience on these characteristics.

The study began by the issuance of invitations to students to participate on a voluntary basis. There were to be three student groups of sixteen each making a total of forty-eight participants. When thirty-two students had volunteered for Outward Bound the thirty-two were divided by a random drawing to make two groups of sixteen. One of these groups was given the Outward Bound ex-

perience for the first three weeks of an eleven week student teaching quarter. A third group with no interest in Outward Bound volunteered to participate also. Perhaps because of a sense of foreboding, the Outward Bound group at departure time numbered only twelve. Additional scholarships had been offered to absorb an anticipated dropout but the number dropping out exceeded expectations.

The group which volunteered for but was not selected for Outward Bound went directly into the eleven week classroom teaching experience. The inclusion of this group in the study established a factor whereby the researcher could determine whether an Outward Bounder reacted differently on measurement instruments because of personality characteristics common to those who volunteer for such experiences.

The third group which showed no interest in Outward Bound also went directly to an eleven-week student teaching experience.

All three groups had a mean quality point average of C+ between 2.7 and 2.8.

The pre and post assessment instruments were identical and were used to measure within the limits of the inventory certain changes over the eleven weeks in how the three groups rated their educational program's contribution to their teaching readiness. Measurement instruments involving student evaluations of teacher candidates and college supervisors' evaluations of teacher candidates were also attempted but with great reservations due to the emergence of a variety of circumstances underwhich the several candidates interned, almost all of which circumstances were beyond the control of the researcher.

A fourth evaluation was quite subjective, relying upon the free expression of

the Outward Bound group in personal statements.

The study admittedly deals in several subjective areas, areas which are difficult to quantify. To the author's knowledge, no scientific proof exists that any one characteristic is an indispensable mark of a good teacher. This country has widely adopted an elaborate system of teacher certification based upon the presumption that our instinct and experience proves right about what makes a good teacher and how to quantify this by rank or grade. Professional educators, as a matter of course, subjectively quantify student attainment of the same teaching characteristics used in this study. Consequently, the reverse is believed fair - that student teachers are able to quantify teacher education's contribution to the development of the same characteristics of good teaching. The study thus accepts the judgments of several individual students if when combined the judgments make an overwhelmingly weighted case.

The study is based on simple premises. The first is that of the perceptual psychologist which believes that learning is a self-fulfilling process best motivated by the power of self-confidence. Real self-confidence is outgoing, unselfish, communicable to a degree and an asset to a profession that constantly is in contact with people in the learning process. Consequently, several aspects of the self-concept which apparently relate to teaching were studied.

The second premise is that students learn better by doing, by direct involvement, by experience as contrasted with detached cognition. The assumptions in this premise are not likely to be challenged by many educators. Consequently, several aspects of student involvement were studied.

The third premise is that students respond better to a warm receptive, supportive personality, feel freer to explore and as a rule learn more from such a person. Consequently, several aspects of humanistic, interpersonal development were included in the study.

GENERAL OBSERVATIONS

The pre and post assessment inventory completed by the student teachers proved the study's most revealing evaluation instrument. Its purpose was to measure readiness for mature, democratic approaches to classroom work believed to have resulted from professional training to the moment of testing.

According to statistical formulas applied to the results, the Outward Bound group, hereafter referred to as Group OB, gained markedly from the beginning assessment to end and when compared to the other two groups, the other groups being the group which volunteered for Outward Bound but was Not Selected, Group NS, and the group which chose the ClassRoom only, Group CR.

The gains by Group OB at the end represented the group's appraisal of the improved effect of their professional education on teaching readiness by the end of an eleven week period in which they underwent three weeks of Outward Bound education followed by eight weeks of student teaching in a public school classroom. For Group OB only, a mid-assessment was administered immediately after Outward Bound to determine early impact of the experience. Noticeable but statistically insignificant gains were observed for the group at that point.

Overall Inventory

The inventory had two parts which asked about the contributions of college preparation to professional readiness before and after the experience. The seventeen items in the first part dealt with personal readiness as felt by the student teacher. (See Appendix II, p.34). The eight items in the second part deal with readiness for effective relations with classroom students (see Appendix II, p.36). The items were to be rated on a seven point scale with 4 being "adequate" and 7 "superior".

Of the three groups, at the beginning Group OB by inventory responses on both parts showed the least confidence in their preparation to teach. Group CR showed more confidence in their preparation on every item of the inventory though not to a degree overall that could be termed "statistically significant".

Comparing the two groups which showed the widest pre-assessment discrepancies, Item 6, for example, showed a 4.57 mean score for Group CR compared to 3.40 for Group OB, or roughly "good +" compared to "adequate +". The item deals with influences of professional training on "sympathy with those who lack your own particular talents". Major discrepancies also occurred in the following items from the inventory overall:

10. developing self-confidence in confronting new tasks.
13. developing an honest attitude about your own strengths and weaknesses.
14. minimizing the threatened feeling of teacher in encounters with students.
15. motivating you toward striving for excellence in teaching.
18. promoting feelings of worthiness and usefulness in others.
21. using direct involvement techniques in experiential learning (learning by doing).
22. overcoming the impersonal classroom.
23. conveying the acceptance of failure as a tolerable risk of trying. (This item produced the greatest discrepancy of all at the beginning.)

For a more detailed explanation of the data pertinent to these items see Appendix I, pp. 18 - 20.

With regard to beginning to end comparisons on the inventory overall, Group OB showed positive gains while Groups NS and CR did not vary to any extent. Group OB on the overall inventory pretested well behind Group CR with a mean of 4.31

compared to 4.83. At the end the mean for Group OB was 5.24 compared to 4.77. Strongest gains for Group OB were on the items where the most noticeable original discrepancies occurred. Overall, Group OB gave responses significantly higher than Group NS at the $p < .05$ level (probability that results came from sources other than Outward Bound - less than five in one hundred). In comparing these two groups, a similar pattern of gain was observed for Group OB on approximately the same items. For a more detailed explanation of data see Appendix I, p.21.

Self-concept

Three specific areas of study springing from the premise of this research were focused upon inventory items clustering in broad personality characteristics. The self-concept cluster asked the student teacher to appraise the influence of his own professors in a student's preparation for the classroom. The following items were selected as related to self-concept:

6. developing an ability to sympathize with those who lack your own particular talents.
7. developing an ability to cope with unfamiliar and difficult situations.
10. developing self-confidence in confronting new tasks.
13. developing an honest, forthright attitude about ones own strengths and weaknesses.
14. providing groundwork to minimize the threatened feeling of teachers in encounters with students.
15. motivating you toward striving for excellence in teaching.

In this cluster, Group OB gained beginning to end to a highly significant degree at a level of $p < .02$. The pre and post mean scores respectively were 3.98 and 5.17.

When compared to the other two groups, Group OB gained to a point of statistical significance on Group NS and on Group CR to a highly significant degree. Both of the latter two groups dropped in mean scores from pre to post. (Appendix I, p.29, Table 2.)

Student Involvement

Professional preparation for the direct involvement of students in the learning process was appraised through the following items:

12. encouraging a willingness to involve students in planning and decision making.
17. managing cooperative and constructive group work.
21. using direct involvement techniques in experiential learning (learning by doing, by experiencing).
24. developing a predisposition to share responsibilities and thus become more involved in group processes and relationships.

Group OB with a pre-test mean of 4.25 and a post-test mean of 5.17 gained markedly from beginning to end to a level of $p.<10$ somewhat less than what is termed "statistical significance". When compared to Group CR the gain for Group OB was noticeable but again to a level of $p.<10$. The gain of Group OB on Group NS, however was significant. Both Groups CR and NS dropped in mean scores but remained relatively unchanged and showed no noticeable comparative differences between them (Appendix I, p.30 Table 3).

Interpersonal Relations

Professional preparation in the humanistic cluster was appraised by the student teachers and analyzed using the following terms:

2. encouraging a warm, receptive personality.

18. promoting feelings of worthiness and usefulness in others.

22. overcoming the impersonal classroom.

23. conveying the acceptance of failure as a tolerable risk of trying.

Group OB with beginning and end means of 3.85 and 5.01 respectively made a "significant" gain ($p < .05$). When compared to Group CR the gain was also significant ($p. < .05$). When compared to Group NS the gain was highly significant. Groups NS and CR again dropped in mean scores beginning to end, but not to any great extent. (See Appendix I, p.30, Table 4.)

Class Evaluations and Supervisors' Evaluations

Students in the public schools were asked to rate their student teachers in areas of teacher characteristics that were thought to be important from the student's viewpoint. This phase of the research as well as the supervisor's evaluations suffered a considerable degree of unmanageability much of which could not have been fully anticipated. On the one hand, first graders evaluated a whole day's performance. On the other, high school seniors could evaluate only one class of a student teacher in chemistry. In both cases it was necessary to use the same instrument in order to impose a degree of control. Moreover, the numbers and sizes of classes varied among student teachers.

At Appalachian State, student teachers are allowed to choose for themselves a public school system for their student teaching, which means supervision may be done by one of about nineteen supervisors. Consequently, there was no way to assure standardization of values in the supervisors' assessments.

Availability of student teaching positions in a given area and a shortage of vol-

unteers for the experiment, which had to be on a voluntary basis, eliminated the researcher's ability to exact controls that could have added more integrity to this phase of the research. We were forced to proceed with what we had.

As it turned out, a few supervisors had no project participants. Some had several with a random and imbalanced scattering from the three groups. Some supervisors had no Outward Bounders with which to make comparisons of students from Group NS and Group CR.

The class evaluations and the supervisors' evaluations (see Appendix II, p.37) were applied nevertheless in the event a surprise result would indicate a need for a better controlled study. By combining individual mean scores where appropriate to find a mean score for each of the three groups, the groups were found not to vary at the end to any extent on either of these evaluations.

Free Evaluations by Students

Administrative convenience and the anticipated futility of making a comparative study of the personal impressions of the three groups led this study to limit this phase of assessment to the Outward Bound group. The group returned to a meeting on campus for debriefing at the end of the student teaching quarter. The session was taped.

Overwhelmingly the group agreed that Outward Bound was helpful in preparation for teaching, especially in establishing tolerance for and empathy with students who saw success at school an almost insurmountable challenge. Several comments were made about the importance of self-confidence and the valuable lessons in direct feedback learned on a rock cliff. There were comments about the importance of experiencing previous success against heavy odds in motivation for new learning.

There was discussion of the value of group support to the learning process. The essential nature of direct involvement by students was affirmed. Not a single reservation about the value of Outward Bound was uttered although there were differing opinions as to what should get more emphasis.

The following are excerpts from written summaries about the experience by the Outward Bound group:

"My Outward Bound experience taught me patience, one thing that I found a teacher must have to teach effectively."

"In my student teaching I tried to create situations that would place most of the responsibility of the learning on the learner."

"The most overwhelmingly evident benefit I derived from myself in relation to student teaching was the self-confidence I discovered within me. To be an effective teacher or educator, one must have a sense of compassion for his students - to be taken off the defensive and to be put on the same level as the student as a co-learner."

"It gave me a lot of new situations to encounter. The classroom was one of these situations. I really believe that Outward Bound helped me."

"....to have been faced with such tremendous challenges and to have overcome fear, anxiety, and human inadequacies is to know how to succeed."

"I feel it is immeasurably valuable to the full development of one's mind."

"You find out how to conquer the biggest obstacle of all, which is really your own mind."

"The important objective is not to compare yourself with others but to work to better yourself."

"The self awareness Outward Bound develops is essential for a good teacher."

"Whenever I doubted myself there was always someone full of encouragement for me."

"The biggest challenge for me was being put out on the streets of Atlanta, Georgia. This was the wilderness for me."

"I learned patience and self-confidence, not how to conquer nature. Learning that others have feelings far from mine but just as sensitive also made me aware of reality."

"I feel it was probably the most rewarding experience of my life. It also helped me relate to other people with different backgrounds and attitudes toward life."

"I seem more open minded now, more than ever before."

CONCLUSIONS

In a study in which a group of twelve senior level college candidates for teacher certification underwent a three week Outward Bound experience at the first part of the student teaching quarter, the group by the end of the quarter had made positive to highly significant gains on two other groups in an inventory rating of the value of their professional preparation. The other groups went directly into the classroom for practical teaching experience. They showed no appreciable changes in rating of their professional education during the period.

The group which volunteered for but was denied Outward Bound was included in the study as a means to determine whether persons who volunteer for such experiences have common characteristics which could affect inventory answers. The study produced no evidence of this.

Anonymity of student ratings was guarded to encourage forthrightness, even though data analysis was limited by this approach.

The three groups had practically identical grade point averages in their first three years of college.

A pre and post rating inventory was given to all groups asking about the value of their professional education to date in contributions to the development of certain generally accepted characteristics of good teaching.

At pre-testing, the mean scores of the groups on twenty-five items relating to good teaching showed the Outward Bound group rating their training as "adequate". Another group which volunteered for Outward Bound but was not selected also gave a mean rating of "adequate". A third group which indicated no interest in Outward

Bound gave a rating approaching "good".

The Outward Bound group which was the only group receiving a mid-assessment showed a somewhat higher ranking of their college program after Outward Bound. After eight weeks of experience in the real classroom as teachers, the Outward Bound group rated their overall college program as "good", the only group to do so.

The other groups actually lowered somewhat their rating of their overall program after eleven weeks of experience in the real world of teaching.

The Outward Bound group showed a marked change in their rating of the college program's contribution to teacher self-confidence, to interpersonal relations and to direct student-involvement in the learning process.

On the six inventory items which clustered in the self-concept area, the Outward Bound group gained significantly on both other groups and even highly significantly on the group which expressed no interest in the Outward Bound experience.

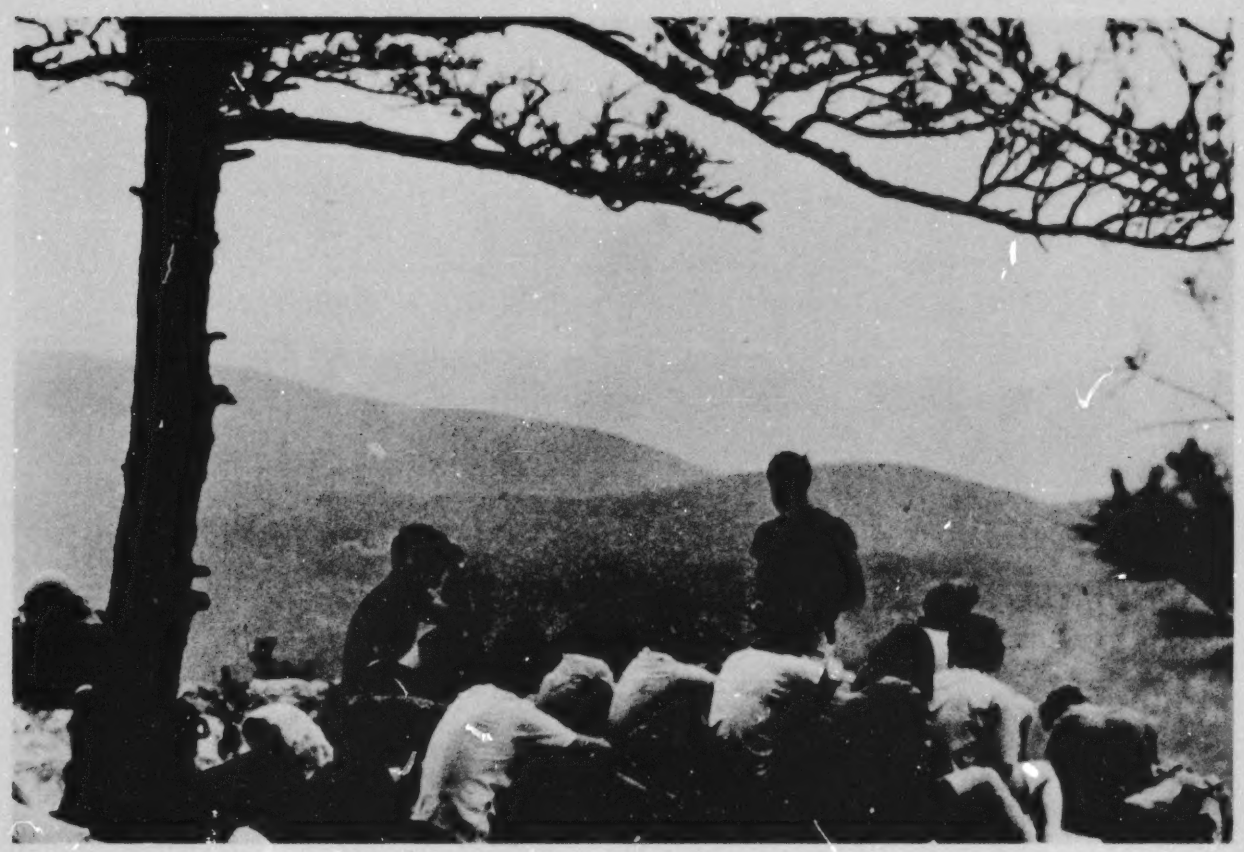
On the four inventory items clustering in student-involvement, the Outward Bound group made marked gains on both other groups and significant gains on the group which volunteered for Outward Bound but was not selected.

On the four items in the interpersonal area, again the Outward Bound group gained to a significant degree on both other groups and to a highly significant degree on the group which volunteered for Outward Bound but was not selected.

In personal statements about Outward Bound's contribution to professional education, the students in the group were unanimously enthusiastic about the experience.

An attempt to evaluate by college supervisors' ratings and by the classrooms' ratings of the student teachers produced inconclusive results. Although the three groups ranked about the same on these ratings, the variables arising in the course of the project for this phase were beyond the control of the researcher.

Claims based upon the responses of three groups of twelve to fifteen students can hardly qualify as indisputable evidence that Outward Bound experiential education is an answer to the critics of professional education. The Office of University Research asserts, however, that a major study involving greater numbers is justified based upon the evidence herein.



ANALYSIS OF DATA

For the results of the three measurement instruments the Office of University Research used t tests, that is, a comparison of mean scores of the three tested groups. An analysis of covariance was attempted but certain necessary assumptions about linear progression in individual performance could not be met to validate findings with this approach. In t testing mean scores were used to analyze several categories of data. The categories were designed to constitute broad areas of individual personality development of the student teacher such as "personal readiness to teach" or areas of a teacher's competence in dealing with students.

The first instrument applied was a pre-experience inventory which was to be completed again by the three groups after the eleven week experience. The Outward Bound group completed the inventory also at the end of the three week Outward Bound experience to measure immediate impact of Outward Bound itself.

Another evaluation took place at the end of the eleven weeks and was done for all three groups by the public school students who evaluated their student teachers on characteristics generally considered to be qualities of a good teacher. The instrument was not subdivided into competency areas since this process seemed superfluous for reasons which will be analyzed later. Rather the mean scores for the whole instrument were compiled.

The third instrument was the college supervisors' ratings of the student teacher which also took place at the end of the term for all three groups.

A fourth assessment was the subjective evaluation done by the Outward Bound group through personal statements about the meaning and value of the experience.

To be discussed first will be the results of the inventory regarding professional preparation for the classroom. The questionnaire was divided into two parts.

Step 1, Inventory Analysis, Part I

Part I of the questionnaire dealt with personal readiness as a teacher for mature, democratic approaches in classroom work believed by the respondents to have resulted from professional training to the moment of testing. Questions were asked and a seven point scale for rating was used as seen in the following test instrument. Part I continues through Item 17. Appendix II, p. 34.

In "round robin" t testing of the pre-experience inventory results, there was no evidence of significant differences between the three groups in personal readiness to teach. There was however a mild indicator that Group CR, the group interested only in ClassRoom experience, felt better prepared than Group OB, the Outward Bound Group. Group OB felt the least prepared of all groups. NS, Not Selected volunteers for Outward Bound, was in between the other groups.

Note: N is the number of respondents in the respective groups. In the figure below t is the value obtained statistically followed by a column indicating "significance". There was no significant value at this point, only a mild indicator approaching significance.

Beginning Inventory	N	t	Significance
Group OB-Group NS	12, 15	.69	no
Group OB-Group CR	12, 15	1.59	$p < 20$
Group NS-Group CR	14, 12	1.01	no

The mean score for each of the seventeen items in Part I of the inventory was higher in every case for Group CR, the group not interested in Outward Bound. Group CR apparently felt better about their readiness, but not significantly so. The most notable differences however occurred in the six questions that cluster in the self-image area.

In consecutive order the six items in which the most differences occurred between the Outward Bound Group and the group with interest only in going directly to classroom experience deal with individual self-image as observable in the following:

6. sympathy with those who lack your own particular talents.
7. ability to cope with unfamiliar and difficult situations.
10. developing self-confidence in confronting new tasks.
13. honest attitude about your own strengths and weaknesses.
14. threatened feelings of teachers in encountering students.
15. motivation to strive for excellence.

Item 6 had a mean of 4.57 for Group CR compared to 3.40 for Group OB (or roughly "good+" compared to "adequate+") which represents 117% of a full rating step difference. Item 7 had a 31% difference. Item 10 showed 61% of a full rating step difference. Item 13 showed a 74% difference. Item 14 showed 64% difference, and Item 15 showed 105% of a full rating step. The mean difference between the two groups in the self-image cluster was 84% of a rating step. This

should be noted for future reference.

No other questionnaire items showed a difference worth of analysis and no other clutering was observe.

Step I, Inventory Analysis, Part II

Part II of the inventory asks about professional preparation that affects the way a teacher deals with students. The pre-experience test results showed the group rankings in the same order as before -- Group OB feeling the least prepared, Group NS feeling better prepared and Group CR again on top, but not significantly better than Group OB by statistical standards. Once again in item analysis, every single item of Part II for Group OB had a mean score that was lower than Group CR, and again Group OB averaged lower than Group NS.

The greatest discrepancies in pre-experience testing between Groups OB and CR appeared in the following items:

Item 18. "promoting feelings of worthiness and usefulness in others." 74% of full rating step

Item 21. "using direct involvement techniques in experiential learning" (learning by doing). 74% of a rating step.

Item 22. "overcoming the impersonal classroom." 88% of a rating step.

Item 23. "conveying the acceptance of failure as a tolerable risk of trying." 129% of a rating step.

Step 2: Inventory Analysis, Part I and II, Outward Bound Group, Mid-experience Assessment

To measure immediate impact of the Outward Bound experience, Group OB which was the only group to have such an experience was tested again after Outward Bound and before entering the classroom for student teaching. On Part I which deals with personal readiness, the Outward Bound group gained essentially a full step on the following items listed by number. The percent of a full rating step's gain over pre-experience assessment is also listed.

Item 1 - 97% of a full rating step gain

Item 3 - 120% of a full rating step gain

Item 5 - 74% of a full rating step gain

Item 6 - 100% of a full rating step gain

Item 7 - 97% of a full rating step gain

Item 10 - 127% of a full rating step gain

Item 13 - 70% of a full rating step gain

Item 15 - 67% of a full rating step gain

The mean gain for the whole section was not significant but did register by t test to be a mild indicator of significance with the probability of getting this result by chance of less than .20.

The pattern persisted into Part II of the mid-test. Individual items in Part II were not as greatly marked by increases as they were in Part I, although every item increased in rating. Notable items were Item 21 with 77% of rating step increase and Item 25 with 84%. These items respectively pertain to "direct involvement techniques in learning" and "inspiring a desire.... to meet new

challenges".

Again a mild indicator of significance occurred at a probability of getting this result by chance of less than .20.

Step 3: Inventory Analysis, Part I, Post-Experience

The post-experience inventory, Part I revealed a significant difference in Part I overall between Group OB and Group NS (the group which desired Outward Bound but was not selected). Group OB and Group NS started the experiment with Group NS rating themselves higher, but not significantly so, in "personal readiness to teach". However, the two groups diverged significantly at the end with a probability of chance of less than .05. For the total questionnaire, Group NS dropped numerically, but very little. Group OB rated higher on every question except one. The figures below represent comparisons of the end scores of the two groups, not the total beginning to end gain of Group OB.

Most notable gains for Group OB over Group NS were as follows as shown in the percent of a full rating step difference based on mean scores.

Item 2 - 110% encouraging a warm, receptive personality

Item 5 - 73% establishing the value of direct feedback in learning

Item 6 - 66% developing ability to sympathize with those who lack your own particular talents

Item 8 - 85% encouraging opportunity for free group debates

Item 10 - 149% developing self-confidence in confronting new tasks

Item 11 - 117% seeing fears and triumphs in the learning process from the perspective of the student

Item 12 - 95% encouraging student involvement in decision making and planning

Item 13 - 67% developing an honest, forthright attitude about ones own strengths and weaknesses

Item 14 - 76% minimizing threatened feelings of teachers in encounters with students

Considering the fact that the Outward Bound group scored lower in comparison at the beginning, some of the items at the end show a remarkable result. For examples, of the aforementioned, Item 2 shows a beginning to end gain for Group OB over Group NS of 166% of a full rating step. Item 6, 179%; Item 10, 157%; Item 12, 127%; Item 13, 103%; Item 14, 121%. Other items with such gains were Item 15, 107% -- "motivation for excellence in teaching", and Item 17, 92% -- "managing cooperative and constructive group work".

The Outward Bound group, unlike Group NS, felt considerably improved in humanitarian characteristics and self-confidence. Of the items showing noteworthy gains, Items 2, 6, 12, 14, and 17 deal in humanizing processes. Items 10, 13, 14, and 15 are self-image questions. Since Group OB gained significantly on Group NS beginning to end on both Parts I and II overall, it would appear that solid conclusions can be drawn from the item responses clustering in the humanistic and self-image areas.

In Part I the direct comparison at the end assessment of Group OB and Group CR showed Group OB numerically ahead whereas at pre-experience assessment Group OB was considerably behind. Group CR just as Group NS dropped numerically from beginning to end.

The important fact is that Group OB pretested well behind Group CR overall and on every item. Beginning behind with an average mean of 4.31 compared to 4.83 and finishing ahead at 5.24 compared to 4.77. The total gain beginning to end produced a .99 increase in mean over Group CR. By t tests, Group OB was behind by a t of -1.59 at the beginning and finished .99 over Group CR. This suggests that solid conclusions can be drawn.

In item analysis, the items 6, 7, 10, 13, 14, and 15 which cluster heavily in self-image orientation produced in pre-experience measurement an average for the combined means of 4.22 for Group OB and 4.97 for Group CR. Post-experience assessment showed a change that is statistically highly significant -- t of -3.68 giving a probability of chance result of less than .01. Group OB finished with an average mean of 5.32 while Group CR finished at 4.76. The average gain for the self-image cluster beginning to end Group OB over Group CR was 131% of a full rating step.

Group NS, which at pre-testing was behind Group CR in Part I, fell further back still by end assessment to a t of -1.61 which gives a probability of less than .20, an indicator but not significant.

Step 3: Inventory Analysis, Part II, Post-Experience

A comparison of Groups OB and CR in Part II shows the same pattern, Group OB beginning lower but finishing higher than Group CR.

The total gain in Part I for Group OB over CR shows a beginning mean of 4.30 compared to 4.87 and an ending mean of 4.38 compared to 5.13 for 157% overall

rating step increase in combined means.

In Part II of the inventory the end results also showed a statistically significant gain for Group OB over Group NS with a probability of chance of less than .05.

Beginning to end gain of Group OB over Group NS was most marked in the item mean scores in the following items as shown with the percent of a full rating step gain.

Item 18 - 102% promoting feelings of worthiness and usefulness in others

Item 21 - 107% using direct involvement techniques in learning

Item 22 - 155% overcoming the impersonal classroom

Item 23 - 140% conveying acceptance of failure as a tolerable risk of trying

Item 24 - 90% developing a predisposition to share responsibilities and become more involved in group processes

Again in Part II as in Part I the items worthy of note are heavily interpersonal and humanistic in orientation with an emphasis also on development of self-image.

Step 3: Groups NS and CR

Some consideration should be given to comparison of Group NS and Group CR beginning to end. In both Parts I and II, Group NS fell further behind Group CR though not significantly. In Part I an indicator of probability less than .20 occurred, and in Part II the probability was .10, approaching significance. Group NS during the experience apparently tended to suffer a negative reappraisal of their teaching readiness.

From beginning to end, neither group showed marked changes. The items which for Group NS registered the greatest change (arbitrarily 50% of a rating step or more) were Item 2 - "encouraging a warm, receptive personality" -- decreased 76%. Item 12 - "encouraging a willingness to involve students in planning and decisions" -- decreased 67%; Item 22 - "overcoming the impersonal classroom" -- decreased 61%.

Group CR changed most in Item 10 - "developing self-confidence in confronting new tasks" --decreased 50% of a rating step; Item 15 - "motivating toward striving for excellence in teaching" -- decreased 50%; and Item 23 - "conveying the acceptance of failure as a tolerable risk of trying" -- decreased 71%.

Items which showed a decrease in mean scores from beginning to end Part I and II for Group NS and CR are as follows:

		Beginning	End
Item 6	NS	4.53	4.16
	CR	4.57	4.50
Item 10	NS	4.61	4.41
	CR	5.14	4.64
Item 11	NS	4.53	4.33
	CR	5.07	4.71
Item 12	NS	4.92	4.25
	CR	5.14	5.07
Item 14	NS	4.38	4.16
	CR	4.57	4.42
Item 15	NS	5.30	5.00
	CR	5.78	5.28

		Beginning	End
Item 22	NS	4.61	4.00
	CR	5.14	4.85
Item 23	NS	4.46	4.33
	CR	5.21	4.50

Note: Group OB, the Outward Bound Group, made strong gains on all of these items, and for some reason the concentration of loss for Groups NS and CR falls within the clusters of interpersonal relations and self-image development which proved to be the areas of outstanding gain for OB.

Factor Analysis

The items focused upon for special study fell into three clusters - the self-concept, student involvement and interpersonal relations (humanism).

The self-concept items were as follows:

6. developing an ability to sympathize with those who lack your own particular talents.
7. developing an ability to cope with unfamiliar and difficult situations.
10. developing self-confidence in confronting new tasks.
13. developing an honest forthright attitude about ones own strengths and weaknesses.
14. providing groundwork to minimize the threatened feeling of teachers in encounters with students.
15. motivating you toward striving for excellence in teaching.

Student involvement items were as follows:

12. encouraging a willingness to involve students in planning and decision making.
17. managing cooperative and constructive group work.
21. using direct involvement techniques in experiential learning, (learning by doing, by experiencing).
24. developing a predisposition to share responsibilities and thus become more involved in group processes and relationships.

Humanistic items were as follows:

2. encouraging a warm, receptive personality.
18. promoting feelings of worthiness and usefulness in others.
22. overcoming the impersonal classroom.
23. conveying the acceptance of failure as a tolerable risk of trying.

When beginning to end mean scores in each cluster were calculated, Group OB gained markedly in every cluster. The other groups dropped in every cluster. See the comparisons of pre and post mean scores for the three clusters in the following tables.

PRE and POST COMPARISONS

of

MEAN SCORES in FACTOR ANALYSIS

Table 1 - Self-concept Cluster - Items 6, 7, 10, 13, 14, and 15

	Mean Pre-test	Mean Post-test
Group OB	3.98	5.26
Group NS	4.64	4.53
Group CR	4.98	4.76

Table 2 - Student Involvement Cluster - Items 12, 17, 21, and 24

	Mean Pre-test	Mean Post-test
Group OB	4.25	5.17
Group NS	4.71	4.58
Group CR	4.95	4.91

Table 3 - Humanism Cluster - Items 2, 18, 22, and 23

	Mean Pre-test	Mean Post-test
Group OB	3.85	5.01
Group NS	4.65	4.16
Group CR	5.01	4.90

The following tables show the degrees of statistical significance by t test formulas in gain for Group OB in the three clusters. Comparative gain between groups is shown also.

Table 4 - OUTWARD BOUND GROUP

	N	Pre-Test Mean	Post-Test Mean	t	df	Probability	Significance
Self-Concept	10	23.90	31.60	2.83	9	$p < .02$	high
Humanistic	10	15.40	20.50	2.74	9	$p < .05$	yes
Involvement	10	16.90	20.70	1.99	9	$p < .10$	approaching

Table 5 - SELF-CONCEPT

	N	Mean Difference	t	df	Probability	Significance
Group OB	10	7.70	2.36	20	$p < .05$	yes
Group NS	12	-1.17				
Group CR	14	-1.29	-.04	24		no
Group NS	12	-1.17				
Group OB	10	7.70	3.18	22	p .01	high
Group CR	14	-1.29				

Table 6 - INVOLVEMENT

	N	Mean Difference	t	df	Probability	Significance
Group OB	10	3.80	2.13	20	$p < .05$	yes
Group NS	12	-1.33				
Group CR	14	- .14	.64	24		no
Group NS	12	-1.33				
Group OB	10	3.80	1.88	22	$p < .10$	approaching
Group CR	14	- .14				

Table 7 - HUMANISTIC

Group OB	10	5.10	2.75	20	$p < .02$	high
Group NS	12	-1.92				
Group CR	14	- .50	.73	24		no
Group NS	12	-1.92				
Group OB	10	5.10	2.35	22	$p < .05$	yes
Group CR	14	- .50				

Step 4: Class Evaluations and Supervisor's Evaluation

Students in the public schools were asked to rate their student teachers in areas of teacher characteristics that were thought to be important from the student's viewpoint. This phase of the research as well as the supervisor's evaluations suffered a considerable degree of unmanagability. On the one hand, first graders evaluated a whole day's performance. On the other, high school seniors evaluated only one class for a chemistry teacher. In both cases it was necessary to use the same instrument to impose some control. Of course, the instrument had to be quite simple for elementary school children, and consequently may have been too simple for secondary school students. Moreover, the numbers and sizes of classes varied among student teachers.

At Appalachian State student teachers are allowed to choose a public school system for their student teaching, which means they come under the supervision of one of about nineteen supervisors. Consequently, there was no way to assure standardization of values in assessment.

Availability of student teaching positions in a given area and a shortage of volunteers for the experiment, which had to be on a voluntary basis eliminated the researcher's ability to exact controls that could have added more integrity to this phase of the research. We were forced to procede with what we had.

As it turned out, a few supervisors had no project participants. Some had several with a random and imbalanced scattering from the three groups. Some supervisors had no Outward Bounders with which to make comparisons of students from Group NS and Group CR.

The class evaluations and the supervisor's evaluations were applied nevertheless in the event a surprise result would indicate a need for a better controlled study.

Class Evaluation

In the class evaluation which consisted of twelve questions to be rated on a five point scale of 1- Poor, 2- Below average, 3- Average, 4- Good, 5- Best, the mean scores for the twelve responses were compared and no statistically significant differences were found. There seemed to be no justification for elaborate analysis of items.

By adding the scores of items 1 through 12 a total score was determined for each sheet which in turn was processed to get the mean total score for a class. The classes for each student teacher which, of course, varied in number, were combined to determine a mean. Still another step determined the mean scores for Groups OB, NS and CR which is the score indicated below.

On the speculation that elementary students perhaps rate teachers higher than high school students, a count was made to show how many project participants taught in elementary school and how many in secondary school.

	Class Evaluation Mean	Percent Secondary
Group OB	51.29	85%
Group NS	51.75	73%
Group CR	53.11	50%

Certainly no conclusive differences emerged in the comparative study of the three groups in class evaluation.

Supervisor's Evaluation

In supervisor's evaluation again there was no apparent reason for item analyses. For one thing, evaluation control over the three groups seemed nearly impossible to attain which would tend to invalidate conclusions. One supervisor with his own standards evaluated one student. Another supervisor with other standards evaluated another student or two and so on. It should also be noted that a random sampling of evaluations of student teachers not related to the experiment was pulled from the files. These evaluation forms were completed by the same group of supervisors who did evaluations for the Outward Bound experiment.

Evaluation forms of twenty male students and twenty female students unrelated to the experiment were sampled in this way to compared means. The supervisors rated the females 40% of full rating step better than the males. There are fifteen men and four women supervisors in the department. It would appear that a relatively high percentage of males would prove a disadvantage to a group in comparing groups by supervisor's scores.

Below is a comparison of mean scores of supervisors evaluations together with the percent of males and females in each group in the Outward Bound experiment.

	Mean	Males
Group OB	4.02	50%
Group NS	4.07	7%
Group CR	4.01	31%

Group OB held up well considering its presumed disadvantage with a heavy percentage of males. However, in supervisors' evaluations the only possible conclusion still is that this study can show no statistical difference between the three groups.

A QUESTIONNAIRE FOR THE STUDENT EVALUATION OF CERTAIN ASPECTS OF TEACHER EDUCATION AT APPALACHIAN STATE UNIVERSITY

You have been selected randomly as a participant in a research project for a certain facet in the College of Education. Therefore, your cooperation in completing the following questionnaire and subsequent questionnaires to help evaluate certain aspects of the formal education of teachers would be much appreciated.

Please answer the questions as frankly and conscientiously as you can, responding with your reaction as of this moment considering all college sponsored programs in which you have participated to date. The process by which the results of this testing instrument will be compiled should negate the possibility of anyone associating your name with your answers.

Indicate your ratings using the numbers on the scale below. For example, if you would rate a certain item as "adequate", you should answer with the number 4 in the blank at the right margin. "Adequate", the middle grade should be interpreted to mean "reasonable" considering the time involved and the potential of a bachelor degree program for teacher certification.

1. negligible	3. barely adequate	6. excellent
2. poor	4. adequate	7. superior
	5. good	

TO WHAT EXTENT HAS YOUR FORMAL COLLEGE PREPARATION FOR THE CLASSROOM CONTRIBUTED TO YOUR PERSONAL READINESS AS A TEACHER BY

1. encouraging intelligent autonomy in decision making

   as contrasted with unthinking dependence

2. encouraging a warm, receptive personality _____

3. developing a positive, optimistic viewpoint toward learning. _____

4. promoting awareness of the realities of public schools. _____

5. establishing the value of direct feedback in the learning process. _____

6. developing an ability to sympathize with those who lack your own particular talents. _____

7. developing an ability to cope with unfamiliar and difficult situations. _____

8. providing the opportunity for free group debates and "brainstormings" on teaching. _____

9. providing opportunity to engage in constructive contemplation leading to better perspectives of overall professional responsibilities. _____

10. developing self-confidence in confronting new tasks. _____

11. enabling you to see the dears and triumphs in the learning process from the perspective of the student. _____

12. encouraging a willingness to involve students in planning and decision making. _____

13. developing an honest, forthright attitude about ones own strengths and weaknesses. _____

14. providing groundwork to minimize the threatened feeling of teachers in encounters with students. _____

15. motivating you toward striving for excellence in teaching. _____

16. helping to understand the social and personal problems of people of dissimilar backgrounds. _____

17. managing cooperative and constructive group work. _____

TO WHAT EXTENT HAS YOUR FORMAL COLLEGE PREPARATION ENABLED YOU TO DEAL MORE EFFECTIVELY WITH STUDENTS BY

18. promoting feelings of worthiness and usefulness in others. _____

19. bringing persons of different races and classes to social and ethnic understanding. _____

20. inspiring interdependent trust among others. _____

21. using direct involvement techniques in experiential learning, (learning by doing, by experiencing). _____

22. overcoming the impersonal classroom. _____

23. conveying the acceptance of failure as a tolerable risk of trying. _____

24. developing a predisposition to share responsibilities and thus become more involved in group processes and relationships. _____

25. inspiring a desire among students to meet new challenges. _____

CLASS EVALUATION OF TEACHER

Please grade your teacher on the following items by placing a number, either 1, 2, 3, 4 or 5 in the blank after each statement about the teacher. Note what the numbers mean below:

1=Poor 2=Below Average 3=Average 4=Good 5=Best

THE TEACHER

1. has a warm, understanding personality. _____
2. has an even-tempered personality. _____
3. manages classroom matters well without needing help from someone else. _____
4. spreads a bright outlook on life. _____
5. is not afraid of the hard realities of the world. _____
6. makes students feel useful and important. _____
7. is someone that can be trusted. _____
8. helps bring persons of different races or backgrounds together. _____
9. has a relaxed outgoing personality. _____
10. makes the student want to learn for himself. _____
11. lets you know as soon as possible whether your answer is right. _____
12. helps in individual and group learning. _____

COLLEGE SUPERVISOR'S EVALUATIONS

Appalachian State University

Boone, North Carolina

Name _____ Home Address _____

Subjects or Grade Taught _____ For the _____ Quarter 19 _____

Supervising Teacher _____ At _____ School

_____ School Address

Check List for Evaluation of Student Teaching

*PERSONAL CHARACTERISTICS	Rating Scale: 1. Lowest-5. Highest-3. Average					COMMENTS
Appearance, Dress, Hair, Posture	1	2	3	4	5	
Voice	1	2	3	4	5	
Social Adaptability	1	2	3	4	5	
Physical Vigor	1	2	3	4	5	
Quality of English Used	1	2	3	4	5	
PROFESSIONAL ABILITIES						
Sense of Responsibility	1	2	3	4	5	
Cooperation (with Teachers)	1	2	3	4	5	
Personal Interest in and Cooperation with Pupils	1	2	3	4	5	
Judgment	1	2	3	4	5	
DISCIPLINE OR CLASSROOM MANAGEMENT						
Attention to Physical Condition	1	2	3	4	5	
Pupil Control	1	2	3	4	5	
TEACHING ABILITIES						
Teacher Preparation (Selection and use of materials and variety of instructional techniques and materials)	1	2	3	4	5	
Use of Time	1	2	3	4	5	
Recognition of and Provision for Pupils Needs	1	2	3	4	5	
Testing and Measuring Pupil Progress	1	2	3	4	5	
Knowledge of Subject Matter	1	2	3	4	5	
TEACHING OUTCOMES						
Pupil Response	1	2	3	4	5	
Pupil Achievement	1	2	3	4	5	

*Make a check (✓) mark in the appropriate block to indicate your evaluation of the student teacher on each characteristic.

RESEARCH ON OUTWARD BOUND

Dr. Robert Godfrey presented a review of research and evaluation literature on Outward Bound and related programs at the conference on Experiential Education held at Estes Park, Colorado in October, 1974. With his permission, excerpts from his review are presented in this and the following appendix.

The available literature can be classified into five categories:

1. Studies of Outward Bound programs.
2. Studies of educational programs related to Outward Bound.
3. Studies on programs for Urban Youth and Delinquents.
4. Non-Empirical Studies.
5. Recent work.

STUDIES OF OUTWARD BOUND PROGRAMS:

Strengthening self-image

Social functioning.

An early study by Richards (1966) used a Semantic Differential Test with a group of 90 boys enrolled in Colorado Outward Bound School course C.11. Richards concluded that there had been a "substantial strengthening of the self-images of the great majority of the young men who went through the course." Using interview techniques with a smaller sample, Richards concluded that (1) "boys with stronger self-images and more outgoing personalities will enroll and participate in Outward Bound more than boys whose self-confidence is not so strong." (2) "The results of the program appear to be felt more in areas of social functioning than in academic pursuits."

more stable

dependable, critical.

A study carried out in England, Strutt (1966) using the Sixteen Personality Factor Questionnaire, the Intelligence, Progressive Matrices Test, Self-ratings, sponsor ratings, and confidential Outward Bound student reports, concluded that in comparison with a control group, girls who had completed an Outward Bound course were more stable, more dependable, more critical, livelier, less sensitive, and less conventional.

Change in self-concept.

Clifford and Clifford (1967) examined the effects of a Colorado Outward Bound School course on adolescent boys. They concluded that "overall change in the self-concept did take place in the appropriate direction and discrepencies between the self and the ideal-self were reduced."

Self-image.

An evaluation of the Outward Bound Teacher's Practicum. Hawkes et. al. (1969) using a questionnaire and interviews some time after the program had ended concluded that "the Outward Bound Teacher's Practicum ..... is an experience which influenced or changed many teacher's self-image and view of their profession.

Control personal fate.

In a study carried out at the North Carolina Outward Bound School, Borstelmann (1969). one of the main conclusions was that, "associated with the program experience is a general increase among students in the belief that they can control their personal fates." Borstelmann also concludes that, "student value hierarchies..... show some tendency to move towards staff positions about the importance of competent behaviours." And, in a cautionary note, he points out that Outward Bound, "does a better job with those students who arrive sharing convictions about self-determination and getting on with the job in a cooperative, task-centered manner."

Changes in personality and values.

Tolerance of others.

Shulze (1970), using a combination of questionnaire and personal interview, concluded that the Outward Bound course, "is an intense personal experience frequently involving changes in personality and values," and, "enables (participants) to look differently at themselves and the world. He also concluded that "one of the most significant results of the Outward Bound course "appears to be an appreciation and tolerance of others different from oneself."

Positive self-concept.

Roles of counsellors.

In a study of 78 Toledo high school students which used the goals of a high school guidance program as a frame of reference, Lovett (1971) concluded that students who participated in Outward Bound gained a more positive self-concept, became more confident in decision-making, and enjoyed better interaction with their peers. Lovett also concluded that high school guidance counsellors working in a program that promotes the concepts of Outward Bound were more likely to fulfill their true counselling roles and to foster within students the concepts which the counselling profession desires to promote.

Fletcher (1971) carried out a questionnaire study of 3,000 students who had taken Outward Bound courses in England. His main

Self-confidence. Needs of others. Maturity. Mix well.

Permanence of changes.

conclusions were that both students and their sponsors felt changes had occured in (1) increased self-confidence, (2) greater maturity, (3) greater awareness of the needs of others and, (4) greater ability to mix well. Fletcher also concluded that the majority of sponsors and students felt that, "the influence of a single Outward Bound course is very persistent," with the majority of sponsors and students expressing the feeling that changes are permanent.

Positive change in Self-concept.

Changes decrease in home environment.

A study by Wetmore (1972) looked at the effects of Outward Bound on the self-concepts of 219 boys who attended the Hurricane Island Outward Bound School. Wetmore used the Tennessee Self-Concept Scale, the Kelly and Baer Behaviour Rating Scale, and self-reports from students six months after the course. He concluded that there was "a distinct positive change in self-concept while in attendance at the Outward Bound School," that, "the intensity of positive change in self-concept decreased after they returned to their home environment," and that "self-concept changes were consistent with behaviour" as reflected by the instructor ratings on the Kelly and Baer Behaviour Rating Scale. Wetmore did not use a control group and his sample of 219 students included low numbers of students in certain background categories, i. e. race and socioeconomic status.

Self-awareness. Self-confidence.

Davis (1972) looked specifically at the experience of fear during the rock climbing phase of an Outward Bound program. A mailed questionnaire to Outward Bound graduates surveyed reactions before, during, and after rock climbing. Plotting his data on graphs, Davis concluded that "the overcoming of fear results in new levels of self-awareness and self confidence." He added that "the transformation of fear into enthusiasm must be considered as a prime value in the increased self-awareness and self-actualization resulting from rock climbing.

More positive view.

In a recent study Koepke (1973) examined the effects of a Colorado Outward Bound School course on the anxiety levels and self-concepts of 33 male and 11 female participants. Koepke used the Gough Adjective Check list as a self-concept measure and the State-Trait Anxiety Inventory as an anxiety measure. She concluded that Outward Bound participants "view themselves more positively and possess lower anxiety levels at the end of a course."

STUDIES OF EDUCATIONAL PROGRAMS RELATED TO OUTWARD BOUND:

A study by Naches and Roberts (1967) examined the effect of Outward Bound adaptive programming on high school students of

Adams County School District No. 14 in Colorado, involved in a program entitled, "Dare to Care." The authors of the study were professional psychologists on the school district staff. Using the High School Personality Questionnaire, a Student Attitude Survey, and a Staff Rating Scale, with three groups of students, "top students, volunteers, and potential drop-outs," they concluded that all students became more (1) outgoing, (2) affected by feelings, (3) assertive, (4) tender-minded, (5) self-controlled. They also concluded that these changes were most significant for the students categorized as "potential drop-outs."

Outgoing.
Assertive.
Self-controlled.
Drop-outs.

A study by Shulze (1971) entitled the Impact of Outward Bound on Twelve High Schools, used a combination of observations of schools, reading of existing reports, and questionnaires sent to all schools. His conclusions included that Outward Bound programming in the schools studied has served as a "catalyst" challenging commonly held notions regarding "scheduling, curriculum requirements, student-teacher relations, strictly cognitive curricula, and performance criteria." Schulze reports that Outward Bound has "legitimized and provided sanction for the progressive notion of learning by doing," and that programs in the schools he studied have provided "a vehicle for curriculum reform." In the area of human relationships Schulze reports that Outward Bound served to "bring opposing groups together and initiate dialogue and interaction." Little formal methodology was used in this study. Shulze relied mainly on his own interviews and observations.

Catalyst.

Fersch and Smith (1971) took a more formal look at an Outward Bound adaptive program (Project Adventure) at Hamilton Wenham Regional High School in Massachusetts. Using a battery of different tests (Rotter Scale of Internal and External Control, Tennessee Self-Concept Scale, Student Questionnaire, Self-Rating Scale, School Climate Survey, and physical tests) the authors' major findings were (1) that there was "overall positive change for the sophomore class," (2) that students involved in the project showed a higher degree of internal control, (3) that students exhibited a "significant decrease in general enthusiasm" for the regular school program, and, (4) in general, "girls did as well, in many instances better, than boys."

Positive change.
Internal control.
Regular school program.
Girls did as well as boys.

Looking at Outward Bound as a strategy for organizational change in a large public school district Godfrey (1972) concluded that (1) project participants experienced significant personal growth and improved inter-personal relationships, (2) the Outward Bound

Organizational change.

Enduring quality.

project stimulated organizational change in the district by involving a wide range of senior administrative personnel in addition to teachers and pupils, (3) the Outward Bound project "influenced teachers in their work with both colleagues and pupils," (4) "the initial positive response of participants... exhibited an enduring quality." (Maintained six months after the experience as measured by a mailed questionnaire.)

Positive, self-confident. Courage to face self and world.

An evaluation of an Alternate Semester program at Lincoln Sudbury Regional High School in Massachusetts was carried out by three staff members of the program, Copp, Pierson, and Sargent (1972). Their report includes student anecdotal responses, the results of a questionnaire sent to parents, staff evaluations of particular units, and overall staff evaluations of the project. Among their major findings is the statement, "if there is one consistent theme that runs throughout the evaluations it is that the majority of these students acquired a more positive, self-confident image of themselves. The authors also make the summary conclusion that "there is no question that these students were deeply affected and most left this program with more courage to face themselves and the world."

Future goals. Personal change. Parent relationships.

College ambition.

Ratliff (1972) carried out an evaluation of the Senior Seminar program at Denver East High School in Colorado. A questionnaire was completed by 93 students involved in the seminar and by a control group consisting of 31 seniors randomly selected from the student body of the school. Summary of much of the data is not included in the report. An item-by-item listing of student responses to the 59 questions included in the questionnaire is given. In comparison with the control group Ratliff reports that seminar students (1) developed more meaningful relationships with teachers, (2) felt that the Seminar experience had had a significant effect on their goals for the future, (3) viewed the Seminar as an experience leading to personal change, (4) related better to their parents, (5) related better to members of other racial groups, (6) developed closer personal relationships with other students, (7) increased in their desire to go to college. A questionnaire given to parents received positive responses to the cost of the seminar and to the difference it had made in their children's lives.

Following on from Ratliff's 1972 study, the Denver Public Schools carried out their own evaluation of the East High School Senior Seminar, Elledge (1973). The Seminar was criticized for a lack of precise goals, but in the conclusion of the study the evaluators

Self-understanding. Race-relations. Value of education.

identified improved self-understanding, improved relations with students from other racial groups, improved understanding of society, and improved sense of the value of education, as the major outcomes of the Seminar.

A semester-long program at a Colorado Springs high school, modelled on the program at Denver East High School, called the Mitchell High School Senior Seminar, was evaluated by one of its staff members, Fornander (1974). He used a variety of evaluation methods including student reactions, staff evaluations, evaluation by observers, and a statistical pre-post test employing a randomly selected control group. A flaw in the statistical design (namely that students did not write their names on the test instruments) prevented formal statistical analysis of the data. Three instruments were used; the Tennessee Self-Concept Scale, the School Climate Survey, and the Student Description Form. Responses on ten of the twelve scales of the Tennessee Self-Concept Scale showed "desirable changes (indicating positive growth in self-concept) for the Seminar students. In most cases the mean differences (group data) for the Seminar students was noticeably greater than for the control group." The results of the School Climate survey indicate that Seminar students felt less positive about the regular school program than the control group, both before and after the Seminar. A significant change for Seminar students was an increased feeling of teacher warmth towards them. The control group did not change in its perception of teacher warmth. There was little difference between Seminar students and control group on the Student Description Form, with the exception that the Seminar students showed an increase on the dimension, "Consideration of Others."

Positive growth in self-concept.

Less positive about regular school.

Teacher warmth.

Consideration of others.

A semester-long program, the Wasson Experiential Education Seminar, at another Colorado Springs High School was evaluated by two teachers at the school, Morris and Hart (1974). Their report incorporates two complementary approaches, (1) a detailed statement of goals generated in part from overall educational goals of the school district, leading to reactions from students, staff, and parents, and, (2) a pre-post testing of Seminar students using the W. E. E. S. Affective Inventory, (Modified from "Inventory of Outward Bound Effects," Smith et al., Bureau of Educational Field Services, University of Colorado, 1973.) The data from the Affective inventory indicate: (1) "a more positive self-concept has apparently developed during the period of the Seminar, (2) on the dimension measuring self-awareness the report states that "many students are more cognizant of their

Positive self-concept.

Strengths and weaknesses.

strengths and weaknesses, "(3) on the dimension measuring self-assertion the authors state that "students now feel they are more responsible for their own actions." (4) little change is reported on the dimension measuring acceptance of others, but the evaluators state that "one area of significant progress during the Seminar has been the tendency of most students to accept others for what they are."

Accept others as they are.

STUDIES OF URBAN YOUTH AND DELINQUENTS:

Active, less alienated. Individuals. Goal orientation and achievement.

Work in this area was begun by Schroeder and Lee (1967) with a study of 40 inner-city, low-achieving, high school students. After Outward Bound the group was found to perceive themselves individually as more active, stronger, more positive, and less alienated. With regard to others the group demonstrated a greater capacity to see other people as individuals, and a greater capacity to view peers and teachers as more positive and helpful. The group also showed a more mature goal-orientation and greater flexibility of means of goal-achievement.

Recidivism rate.

Kelly and Baer (1968) carried out a two-year study of 60 adjudicated delinquents from the Massachusetts Youth Service who participated in Outward Bound. Of 42 boys who completed the program, the recidivism rate was 20% compared to figures of 40% for the State of Massachusetts and 50% - 60% for the Nation. The work carried out in this study received considerable attention and was published in two professional journals, Kelly and Baer (1969) and Kelly and Baer (1971).

Consequences of aggression.

Freeman, Spilka, and Mason (1969), carried out an empirical evaluation of adjudicated delinquents who participated in a cooperative program with the Colorado Outward Bound School. The evaluators main hypothesis, that "the consequences of aggression would come to be negatively viewed," was accepted.

NON-EMPIRICAL STUDIES OF OUTWARD BOUND:

American Indian world view and Outward Bound.

Lev (1968) makes a comparison between the American Indian world view and the Outward Bound concept. He points out that "the American Indian has had a view of reality, or world view, which was ..... rooted in a response to the coercion of nature." He follows this by stating that, "the philosophy behind programs such as Outward Bound is oriented toward ..... a confrontation with nature." Lev suggests that "perhaps a working relationship

can be established between the red man and the white man with this goal and path in mind."

In a comparative study which examined the Hurricane Island (U. S. A.), Moray (Gt. Britain), and Eskdale (Gt. Britain) Outward Bound Schools, Tresemer (1969), by means of interviews and participant observer techniques, looked at the Outward Bound program from the points of view of "character training," "value-forming experience," and, "education for personal growth." He concludes that "although not consistently effective as an initiation rite into Manhood, participation in an Outward Bound program can lead to a constructive development of self-confidence and to greater maturity for those who attend.

Self-confidence. Maturity.

Rhoades (1972) looks at the problem of individual change in Outward Bound, and applies ideas drawn from contemporary change and transfer theory. He applies the Lewin-Schein "three-step model" for change (unfreezing, change, freezing) to an Outward Bound course. He identifies the role of the instructor as crucial in the change stage, and points out that Outward Bound has little control over stage three (refreezing), as students have returned home at this point. He presents a number of strategies and accompanying rationale for increasing the likelihood that transfer will occur after the Outward Bound course is completed.

Change theory.

Transfer.

RECENT EVALUATION WORK ON OUTWARD BOUND:

Much of the above literature is "research" oriented, in the sense that little of it is specifically intended to give information to decision-makers within the Outward Bound organization to assist them in improving the quality of the program. In "The Measurement of Affective Education," Harmon (1974) summarizes work carried out by the Colorado and Texas Outward Bound Schools in evaluating their programs' effectiveness. The approach adopted here is to have programmers identify their goals within three traditional areas: Affective, Cognitive, and Psychomotor Domains. Working mainly in the Affective Domain Harmon has encouraged Outward Bound to develop a series of goals ranging from general to specific. Using checklists based on these goals which are filled out by both instructors and students, he hopes to provide data to the organization indicating how well stated goals are being met. Some pilot testing of these materials has taken place but insufficient data has been gathered and analysed to indicate yet if this line of inquiry will provide useful information. However, Harmon's work in the development of goal statements and the use of checklists on Outward Bound programs

Affective goals.

Checklists.

has engendered an increased awareness in many staff of the educational potential of the program. Staff are talking about goals and making program changes on this basis.

A somewhat different approach has been taken by Smith (1973) in a paper entitled "Final Report: Project to Design an Evaluation of Outward Bound." Although the term "evaluation" is used in the title, this is more of a "research" attempt using Rosen's distinction. Starting from a summary review of existing literature, Smith states that "to date .... no evaluation study of Outward Bound (related to the Colorado School) has been conducted to demonstrate unequivocally the results of Outward Bound. Her charge is to design such a study. She begins with an examination of Harmon's work on goal setting, interviews with Outward Bound staff, and reading of Outward Bound literature. From these sources four main variables are distilled out as commonly accepted outcomes of Outward Bound programs. These are: (1) self-esteem (2) self-awareness, (3) self-assertion, (4) acceptance of others. A questionnaire has been developed to test these four factors and has been developed to test these four factors and has been pilot tested on a Colorado Outward Bound School summer program. Her final study design consists of three separate but interlinked approaches:

1. Study One: A small tightly controlled experimental design involving random assignment of 15 male and 15 female students to experimental and control groups. These students are observed during their field experience and respond to the questionnaire developed for the study. Follow-up data will be collected on these students after their return to high school at the end of the first and second semesters following their Outward Bound course. (Data will include grade-point average, extracurricular activities, leadership activity, discipline, and adjustment ratings.)

2. Study Two: Employs a "Time-series design" in which every student (except teachers) who goes through the C. O. B. S. summer program responds to the questionnaire.

3. Study Three: Utilizes a "participant-observer" for descriptive evaluation aimed at elaborating on the subtleties and details of the program which will not receive attention in studies one and two.

CONCLUDING REMARKS: Many of the studies reviewed here do not meet rigorous

criteria for validity. However, the overwhelming indication of these data is that Outward Bound methods are successfully changing the lives of people who participate in the program, in the direction of the stated goals of the program. More work is needed if traditional educators are to be convinced of these values. The work of Smith and Harmon seems most promising in this regard.

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